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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,649	11/13/2003	William H. Jones	WHJ-100-2	8971
23290	7590	09/10/2004	EXAMINER	
HOLLANDER LAW FIRM, P.L.C. SUITE 305 10300 EATON PLACE FAIRFAX, VA 22030			ANTHONY, JOSEPH DAVID	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/712,649	JONES, WILLIAM H. <i>(Signature)</i>
	Examiner	Art Unit
	Joseph D. Anthony	1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11/13/2003 as a Preliminary Amendment.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 25-42 is/are pending in the application.
- 4a) Of the above claim(s) 25, 26, 36 and 39-42 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 27-35, 37 and 38 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 25-26, drawn to a method for preparing fire-retardant petroleum composition, classified in class 252, subclass 183.13.
  - II. Claims 27-35 and 37-38, drawn to a fire retardant petroleum composition, classified in class 106, subclass 18.17.
  - III. Claim 36, drawn to a method of preparing a fire-retardant petroleum composition using a catalyst, classified in class 252, subclass 183.11.
  - IV. Claims 39 and 41, drawn to a method for providing fire-retardant properties to a product, classified in class 427, subclass 1+.
  - V. Claims 40 and 42, drawn to a method for providing fire-retardant properties to a product that is different from the method of Group IV, classified in class 427, subclass 1+.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions (I and III) and II are related as process of making and product made.

The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by cross-linking the hydroxyl-substituted petroleum polymer with diammonium sulfate or by using a non catalytic method of binding a diammonium compound to said petroleum polymer.

3. Inventions II and (IV and V) are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be physically blended into a flammable polymeric material as a flame-proofing agent.

4. Inventions (I and III) and (IV and V) patentable distinct since Inventions (I and III) are drawn to methods of making a fire-retardant petroleum composition whereas Inventions (IV and V) are drawn to methods of use of the products make by inventions (I and III).

5. Inventions I and III are patentable distinct since the method of Invention I requires the use of liquid ammonia whereas invention III does not require the use of liquid ammonia.

6. Inventions IV and V are patentable distinct because the method of invention IV requires forming a slurry or suspension whereas the invention V does not require forming a slurry or suspension (e.g. reads on dry coating processes).

7. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

8. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
9. During a telephone conversation with Warren A. Zitlau on 08/30/04 a provisional election was made with traverse to prosecute the invention of Group II, claims 27-35 and 37-38. Affirmation of this election must be made by applicant in replying to this Office action. Claims 25-26, 36, and 39-42 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Specification***

10. The preliminary amendment filed 11/13/2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "The cellulose-based fire retardant composition may be insoluble in water." Applicant has failed to show where support is found for such an amendment in the originally filed specification (i.e. grandparent specification).

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 27-35 and 37-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Berte' et al. U.S. Patent Number 5,861,456.

Berte' et al teaches a thickening composition in powder form, comprising:

- a) 70-98% w/w of polymers or copolymers and/or mixtures thereof, optionally cross-linked with a polyunsaturated compound, of an unsaturated carboxylic acid salt with ammonia, an amine, or an alkali metal;
- b) 2-30% w/w of a polyglycol of formula (I): ##STR4## wherein R and R' can be the same or different and represent hydrogen, the --CH<sub>2</sub>.sub.2 COOH group, straight or branched C<sub>2</sub>.sub.1 -C<sub>8</sub>.sub.8 alkyl, or optionally substituted phenyl; R<sub>1</sub> and R<sub>2</sub> are the same or different and are hydrogen, methyl, or ethyl; and the expression: ##STR5## means that the units: ##STR6## can be present in any order, random or in blocks; n and m can be the same or different and can have values ranging from 0 to 5,000 with the proviso that the sum thereof is at least 2;
- c) 0-28% w/w of a salt of an acid with ammonia, amines, and/or alkali metals;

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wherein the polymers or copolymers of component a) are obtained by means of precipitation polymerization. (see abstract, column 2, line 43 to column 3, line 43, column 4, lines 6-34, Examples 2-3 and claim 1) .

Applicant's claims are deemed to be anticipated over Examples 2 and 3 wherein component a) is a cross-linked copolymer of acrylic acid, component b) is polyethylene glycol that becomes cross-linked by the addition of component c) which is a diammonium phosphate in example 2, and is an ammonium sulfate (i.e. diammonium sulfate) in example 3.

13. Claims 27-31, 33, 35, and 37-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Cermak et al. U.S. Patent Number 4,080,160.

Cermak et al teaches the reduction of the formation of undesired difficulty removable film on dyeing equipment when dyeing with aqueous pigment dispersions containing cross-linking resin. Such is accomplished by incorporating in the dispersions a mono-sulphated oleic acid amide, see abstract, and column 2, lines 25-47. Applicant's claims are deemed to be anticipated over Examples 2-3 wherein diammonium phosphate is used as the cross-linking agent for the copolymers in the aqueous dispersion.

***Claim Rejections - 35 USC § 103***

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cermak et al. U.S. Patent Number 4,080,160.

Cermak et al has been described above and differs from applicant's claimed invention in that there is no direct teaching (i.e. to the use of a diammonium salt other than diammonium phosphate) as a cross-linking agent.

It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the reference to cross-linking agents, see column 2, lines 25-47, as strong motivation to use ammonium sulfate (i.e. diammonium sulfate) as the cross-linking agent in the examples.

NOTE: see the enclosed WEST Text search printout of the Cermak et al patent because the image of this patent is missing the page that contains columns 3-4.

16. Claims 27-35 and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lester et al. U.S. Patent Number 4,076,547.

Lester et al discloses a polymeric molding composition from water soluble compounds admixed from a two part wet phase and dry phase combination comprised from the interaction by nucleophilic substitution of an hydroxyl group of an alcohol, having more than one functional hydroxyl group, by a polymeric compound or by a polymeric hydroxyl compound hydrolyzed in a water solution wherein each monomer has an alkyl hydroxyl group, an hydroxyl group or other functional group capable of forming an alkoxide by means of the action of an alkaline earth metal salt electrolytic initiator to provide a self sustaining ionic reaction to create a fast forming polymeric composition which has an initial quick set time to form a flowable gel-like mass and which has a delayed set time to form a rigid non-sticky durable product. The dry phase includes a water solubilizing powder capable of forming a gel and the electrolytic initiator. The wet phase includes water as the solubilizing medium and a water soluble gel modifying substance. (see abstract, column 3, line 20 to column 4, line 18, examples 4, 6, 8, and 11 and the claims).

Lester et al differs from applicant's claimed invention in that there is no direct teaching (i.e. by way of an example) to where a petroleum polymer having a hydroxyl group is actually cross-linked with a diammonium salt compound. It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the patent as strong motivation to actually cross-link a petroleum polymer having a hydroxyl group, such as polyvinyl alcohol, with a cross-linking

agent such as diammonium phosphate or diammonium sulfate, since such is strongly suggested by the patent, see the above cited sections of the reference.

17. Claims 27-33, 35, and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lorenz et al. U.S. patent number 6,482,875 or Lorenz et al. WO 98/50617.

The Lorenz et al references disclose a thermoplastic composite material containing at least 15 percent by weight of one or more organic fibrous material, and at least 15 percent by weight of thermoplastic binder, with binder containing at least two different polyacrylates. The thermoplastic composite material has a flow transition range of 70.degree. C. to 130.degree. C. The invention also relates to a method for producing the thermoplastic composite material and the use of the thermoplastic composite material to coat the surfaces of objects, see the abstracts. Polyacrylates are acrylates and/or methacrylates containing one or more functional groups may optionally be present during the polymerization reaction. Examples of these other acrylates and/or methacrylates are maleic acid, itaconic acid, butanediol diacrylate, hexanediol diacrylate, triethylene glycol diacrylate, tetraethylene glycol diacrylate, neopentyl glycol diacrylate, trimethylol propane triacrylate, 2-hydroxyethyl acrylate, 2-hydroxyethyl methacrylate, hydroxypropyl acrylate, propylene glycol meth-acrylate, butanediol monoacrylate, ethyl diglycol acrylate and, for example, 2-acrylamido-2-methyl propane sulfonic acid as a monomer containing sulfonic acid groups. Acrylate/vinyl ester

copolymers, acrylate/styrene copolymers and acrylate/methacrylate copolymers are particularly preferred. Polyacrylate dispersions of the type marketed by BASF AG, Ludwigshafen, under the registered name of Acronal.RTM., more particularly the products Acronal.RTM. 500 D and Acronal.RTM. S312 D, are particularly preferred and suitable for use in the thermoplastic composite materials according to the invention, see column 5, lines 8-21 of the US Patent, or page 8, line 27 to page 9, line 13 of WO. These said polyacrylates containing one or more functional groups can be cross-linked with cross-linking agents such as diammonium phosphate, see column 12, lines 18-29 of the U.S. Patent, or page 23, lines 19-27 of WO.

The Lorenz et al references differ from applicant's claimed invention in that there is no direct teaching (i.e. by way of an example) to where a petroleum polymer having a hydroxyl group is actually cross-linked with a diammonium salt compound. It would have been obvious to one having ordinary skill in the art to use the broad disclosure of said references individually as strong motivation to actually cross-link a petroleum polymer having a hydroxyl group, such as propylene glycol meth-acrylate, with a cross-linking agent such as diammonium phosphate or diammonium sulfate, since such is strongly suggested by the individual references, see the above cited sections of the references.

### ***Double Patenting***

18. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

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unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

19. Claims 27-35 and 37-38 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9, 13-16, 20, 24, and 62 of copending Application No. 10/426,733. Although the conflicting claims are not identical, they are not patentably distinct from each other because they extensively overlap each other in claimed scope.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

20. NOTE: the examiner does not understand how copending Application No. 10/426,733 can be a straight continuation of S.N 10/331,562 now U.S. Patent Number 6,673,266 which is also the Parent Application of the present application S.N. 10/712,649. The problem here is that copending Application No. 10/426,733 has three inventors listed in the Declaration whereas the present application and Parent application S.N 10/331,562 have only one invention and that inventor is William H.

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Jones. Copending Application No. 10/426,733 also contains New Matter not found in Parent application 10/331,562.

***Prior-Art Cited But Not Applied***

21. Any prior-art reference which is cited on FORM PTO-892 but not applied, is cited only to show the general state of the prior-art at the time of applicant's invention.

***Examiner Information***

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. This examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 6:30 p.m. in the eastern time zone. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (703) 872-9306. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.



Joseph D. Anthony  
Primary Patent Examiner  
Art Unit 1714

